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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,922	05/09/2006	Vasiljef Piotr	15000.DAR.001	3861
48356 7590 09/11/2008 MCNEELY BODENDORF LLP P.O. BOX 19010 WASHINGTON, DC 20036				
EXAMINER				
SAN MARTIN, JAYDI A				
ART UNIT		PAPER NUMBER		
2834				
MAIL DATE		DELIVERY MODE		
09/11/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/578,922

**Applicant(s)**

PIOTR ET AL.

**Examiner**

JAYDI A. SAN MARTIN

**Art Unit**

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 May 2006.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-5 and 7-19 is/are rejected.  
7) ☒ Claim(s) 6 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 09 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. Objection to the Drawings is hereby withdrawn.

### ***Claim Objections***

2. Claim 1 is objected to because of the following informalities: The Examiner still considers that it is not clear if the elastic body is to be attached, mounted or supported to the piezoelectric surfaces. Specifically, the limitation of "an elastic body, to one surface or each of both surfaces of which the piezoelectric or electrostrictive substrate is attached" is unclear. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5 and 7-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Umeyama (US 5490015) in view of Nishikura (US 5408376).

Umeyama discloses the general conditions of the invention. Umeyama's invention is directed to a piezoelectric linear motor used in zoom/focus positioning systems specifically comprising movable shaft coupled to an end of the piezoelectric actuator and a movable member to be moved along the movable shaft. Umeyama discloses the details of the movable body and the shaft. (see figures 7, 8 and 11)

However, Umeyama fails to disclose the piezoelectric actuator comprising an elastic body attached to at least one of the surfaces of the piezoelectric substrate.

Nishikura discloses a piezoelectric actuator comprising piezoelectric layers (101, 102), electrode layers provided on each of the surfaces of the piezoelectric layers and an elastic body (103). Nishikura's invention has the purpose of providing a piezoelectric actuator that is flexibly supported on a base frame by firmly securing the elastic member without directly securing the piezoelectric body to the base frame. Therefore, it would have been obvious at the time of the invention was made to replace the piezoelectric actuator as disclosed by Umeyama for the actuator disclosed by Nishikura to provide a flexibly supported actuator without securing the piezoelectric body to the frame. (see figures 7, 8 and 11)

Regarding claim 2, the actuator as disclosed by Nishikura comprises piezoelectric layers polarized in the thickness direction.

Regarding claims 7-14, as best understood by the Examiner, the combination of Umeyama and Nishikura discloses the method of driving the piezoelectric actuator as claimed.

***Allowable Subject Matter***

4. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. The references of the Prior Art of Record fail to teach or suggest either alone or in obvious combination the details of the movable body as recited in claim 6.

***Response to Arguments***

6. Applicant's arguments filed 6/2/08 have been fully considered but they are not persuasive.
7. As explained above, the combination of references teaches the claimed invention. In Ueyama, a substrate **32** provided with electrodes on both sides is disclosed. The use of electrodes on both sides of the piezoelectric layer is required to apply a voltage to deform the piezoelectric and obtain the desired deformation of the piezoelectric.
8. Ueyama further discloses a movable body (lens) to be moved along the shaft. It is inherent in the disclosure and from the definition of the piezoelectric actuators, that upon application of a voltage, a piezoelectric will undergo deformation, either expansion or contraction, therefore the shaft - attached to the piezo- will move in the linear direction.
9. The examiner considers the rejection is proper and therefore maintained.

***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAYDI A. SAN MARTIN whose telephone number is (571)272-2018. The examiner can normally be reached on M-Th 9-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren E. Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. A. San Martin/  
Primary Examiner, Art Unit 2834

9/8/08